* 57

ACTGTTAGCTAATTGG Refused

CAATCGAA - Probe from first probes

CAAGCGAA Corresponding probes

CAAGCGAA from second, third and

CAAGCGA from probe sets

Interrogation position

Fig. 1

Fig. 2

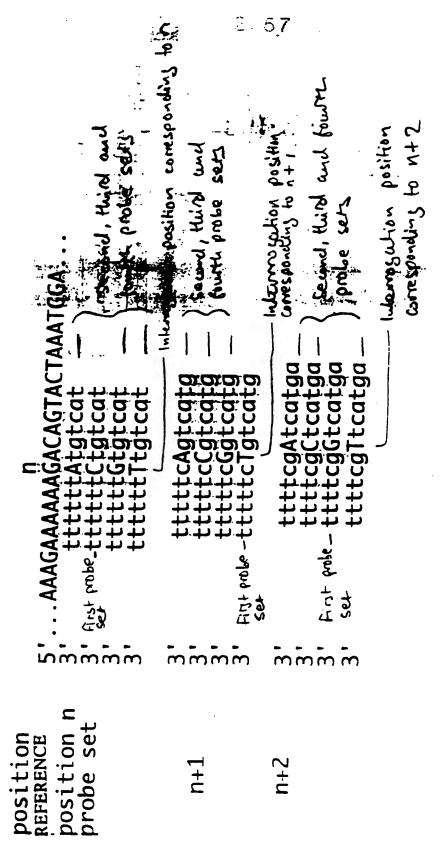


Fig. 3

ACTGTT AGCTAATTGG Reb. Seq.

WI lane TGAC GACA ACAA CAAT AATIG

Fig. 4

Fig. 5

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FIG. 5: Tiled Array with Probes for the Detection of Point Mutations

3'-CCGACTACAGTCGTT

3'-CCGACTCCAGTCGTT

3'-CCGACTGCAGTCGTT

3'-CCGACTTCAGTCGTT

ACTGTTAGCTAATTGG Ref. Seq.

CAATCGA- Probe from first set

CAATCGA[T]-Deletion probe

CAATCGA[] Insertion

CAATCGGA]

CAATGCGGA]

CAATTCGA]

CAATTCGA]

Fig. 6

no no no corresponding nucleotides ACTGTTAGCTAATTGG Reb. Seq. CAATICGA Probe from first set Il Iz Iz Interrogation positions COATCGA Corresponding probes COGATCGA Corresponding probes from second, third and fowth probe sets I, CAAGCGA Corresponding prohos CAAGCGA From fitth, sixth and CAAGCGA Seventy probe sets CAAGCGA L CAATCOA Convesponding probes from CAATCOA CINA winth and tenth

Fig. 7

In Indevrogation positions

Fig. 8

ATTCCCGGGATC

AGGGCCAT — Probo from first probo
Set

AGGGCCAT

Corresponding probes from
Seconditive and fourth

Hagger Hobe set

luterreation

6:11-10

HV407A 130x140 15/8 7/9

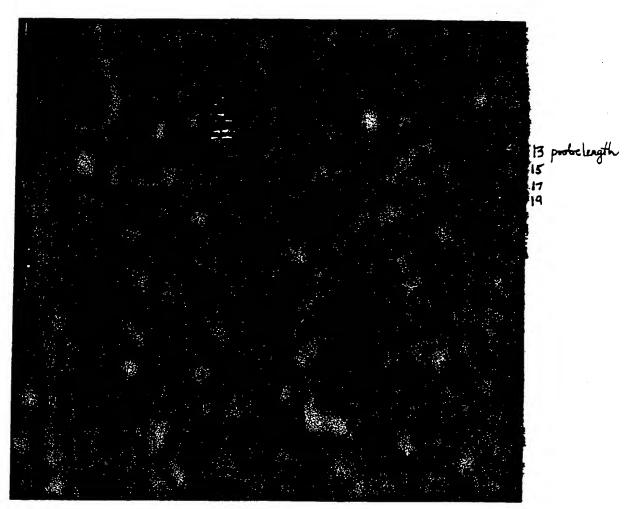
Fig. 10 Page 1 of 2

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HV 4074 (2)

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49/57:



MCO7060: = 407 water chip lybridized with fragmented pfol 19 RNA

Fig. 11

11/57

Figure 12 (Page 1 of 2)

SF2 target: S12 chip
Abovet: SF2 chip
4muri8 CHAPTER THE CONTROL OF THE CONTROL O Charles Transministratic Charles (Child Charles (Child Control Charles (Child Child 17072804.cq2 17072804.cq2 17072804.cq3 17072805.cq3 17072805.cq3 17072805.cq3 53656565 19072804.cq1 19072804.cq2 19072804.cq4 19072805.cq1 19072805.cq1 19072805.cq1 200000000 19072804.cq1 19072804.cq2 19072804.cq3 19072805.cq1 19072805.cq2 19072805.cq2 17072804 17072804 17072804 17072806 17072805 17072805 170/2804 170/2804 170/2804 170/2805 170/2805 170/2805

10:57

Figure 12 (Page 2 of 2)

	188 190
Type	TTOTATGATCTGACTTAGAAATAGGGCAGCATAGAACAAAAATAGAGGAACTGAAAATCAAAATGAAAAATGAAAAATGAAAAAAAA
2804.cq1 2804.cq2 2804.cq4 2805.cq1 2805.cq1 2805.cq2	EMM: A transfer of the control of
J. 8 P. P.	AACATCAGABAGAACCTCCGTTGGGTGGGTTATGBACTCCTGATAAATGGGCGTATAATGCGTATAATGCTGCCTATAATGCTGCGTATAAAAGACAGGGGAGGGGAGGAGAGACAGGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGACAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA
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ii 1.4 Type	TOTICANTONGATACAGGAAAAA TOTICANTONGATACAGGGGAAAAA C. 810 820
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	80-501-17

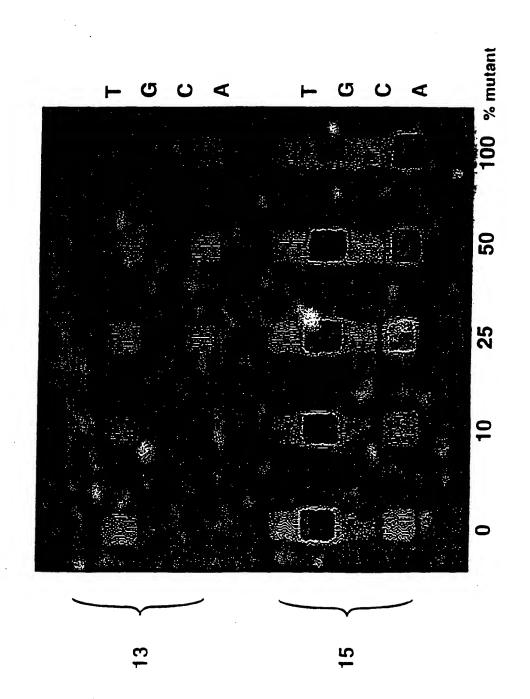
o rinoresce	esceln-AAAGAAAAAAAAAAAAAAAAAAAAAAAAA	wildtvne
PROBE 3'	tttttt•tatcat	13mers
PROBE 3'	ctttttt•tatcata	15mers
PROBE 3'	tcttttt•tatcataa	17mers
PROBE 3'	ttctttttt•tatcataat	19mers
5'Fluoresce	PSCPIN-DAAGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	_ mitort

Fig. 13

PCT/US94/12305

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Fig. 14



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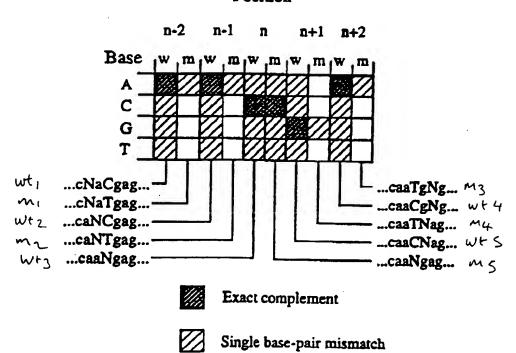
Genotyping of HIV-1 Protestone IV pre and post-ddI troated Patherts muleofido 207 CCCCLLAACÇLCCARAALAÇKILCALICLGICALGCLAAÇSLAKG

Fig. 1.

Array Design for the R553X Point Mutation

Wild-Type Pattern

Position



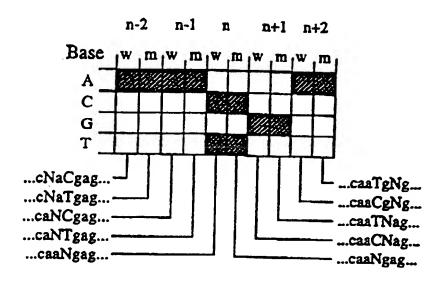
Wild-Type Sequence: 5'-AGGTCAACGAGCAA-3'

Mutant Sequence: 5'-AGGTCAATGAGCAA-3'

Array Design for the R553X Point Mutation

Heterozygote Pattern

Position



Wild-Type Sequence: 5'-AGGTCAACGAGCAA-3'

Mutant Sequence: 5'-AGGTCAATGAGCAA-3'

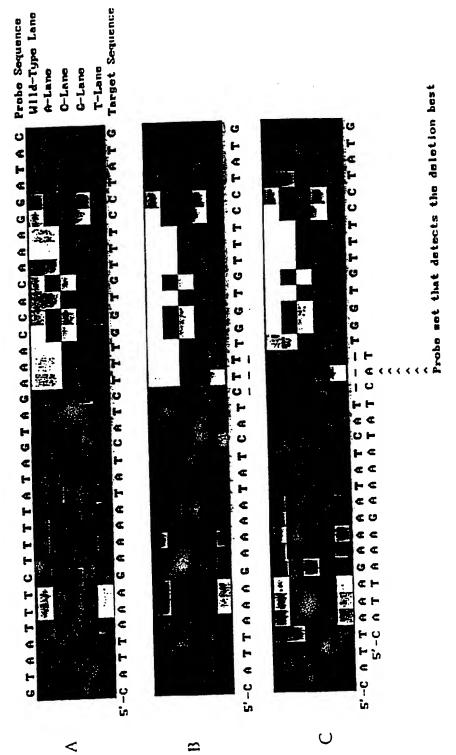


Fig. 18

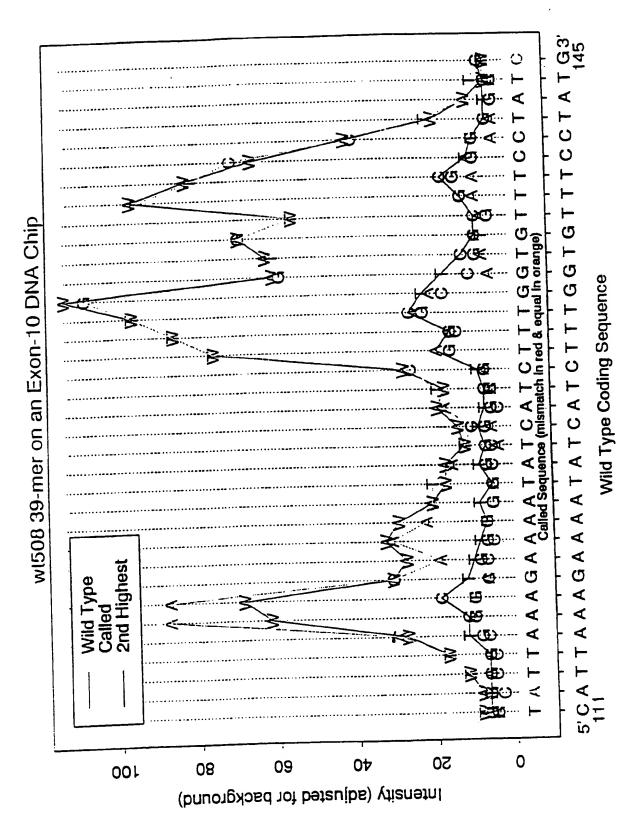


Fig. 19 Page 1 of 3

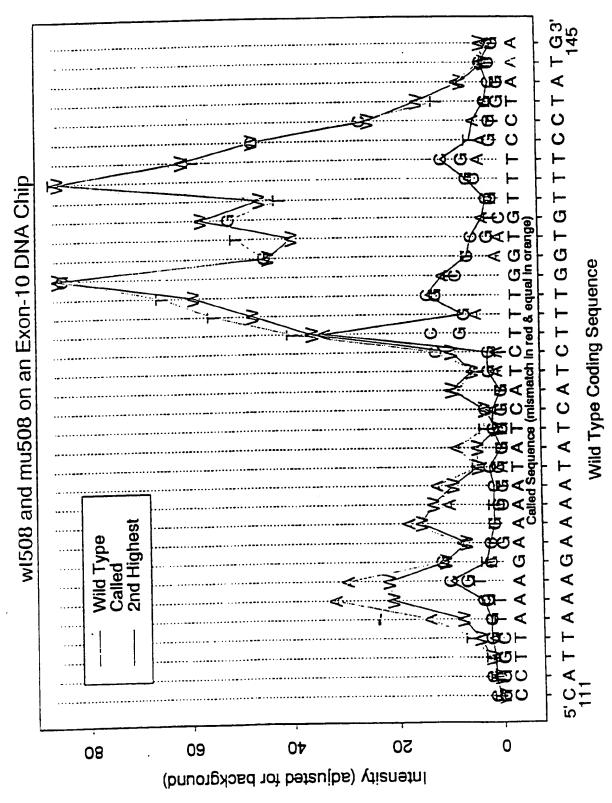


Fig. 19 Page 2 of 3

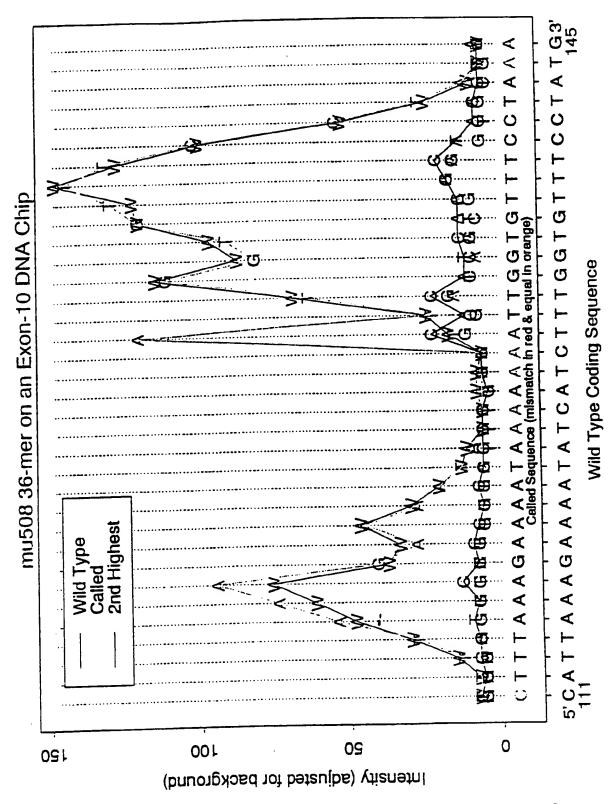


Fig. 19 Page 3 of 3

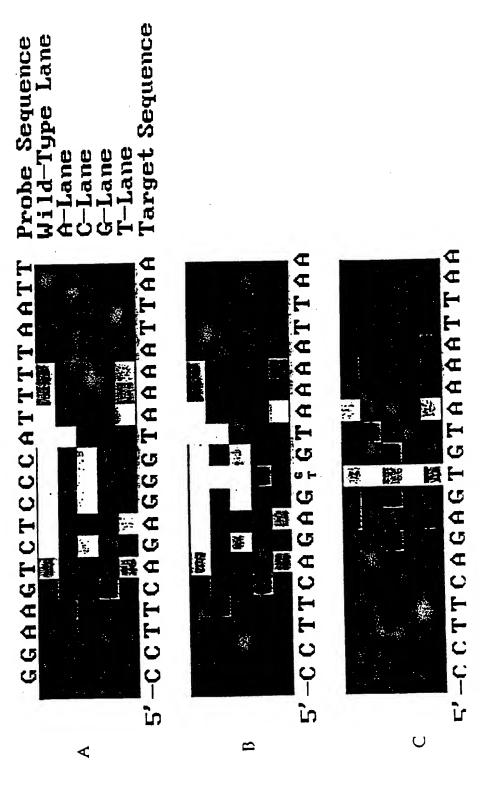


Fig. 20

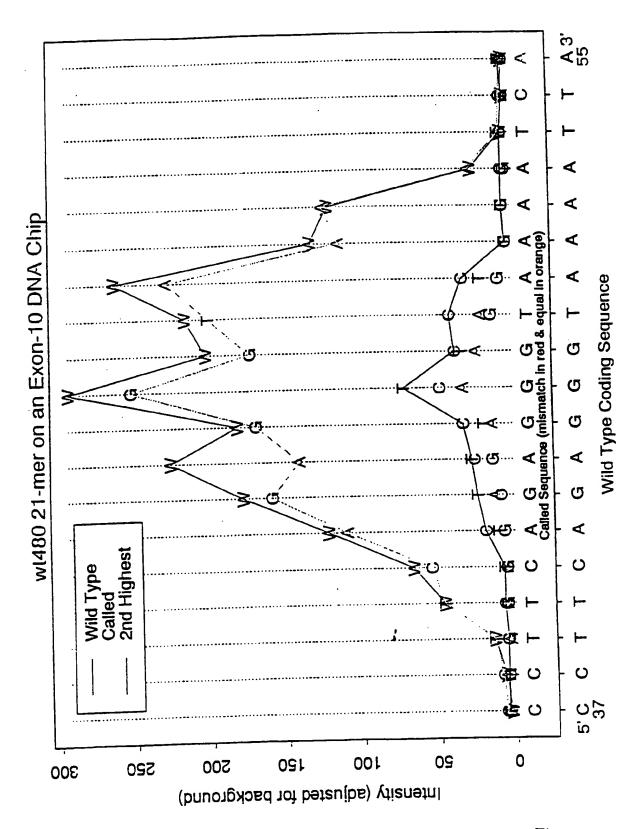


Fig. 21 Page 1 of 3

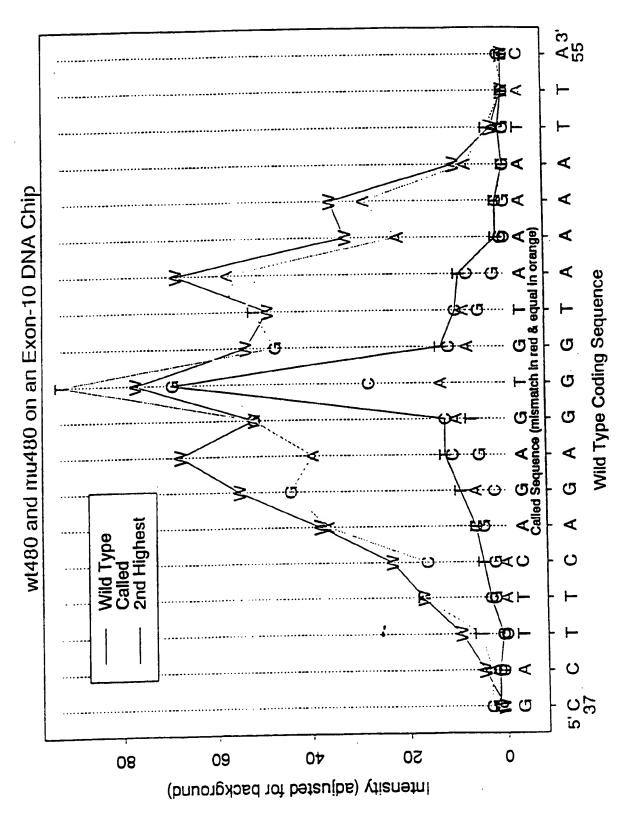


Fig. 21 Page 2 of 3

25/57 .

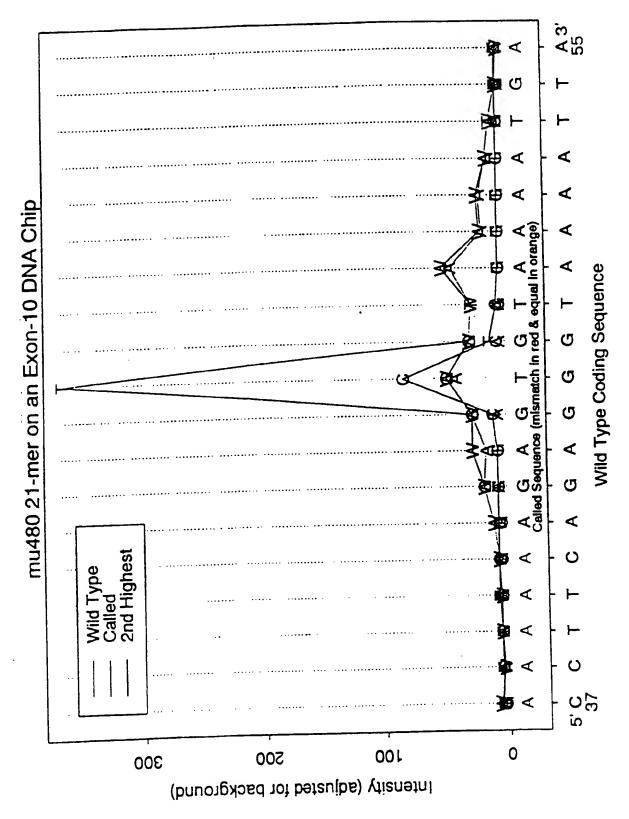


Fig. 21 Page 3 of 3

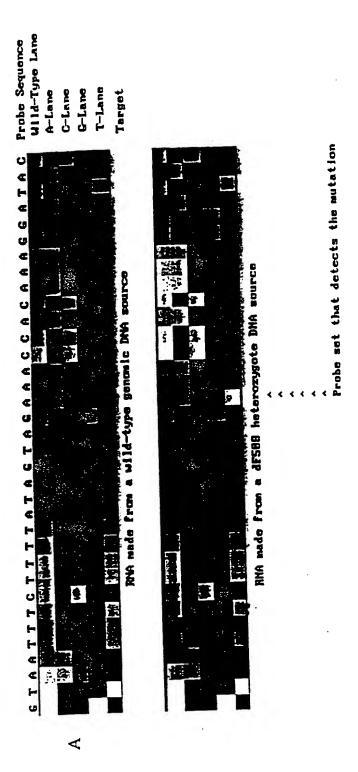


Fig. 22

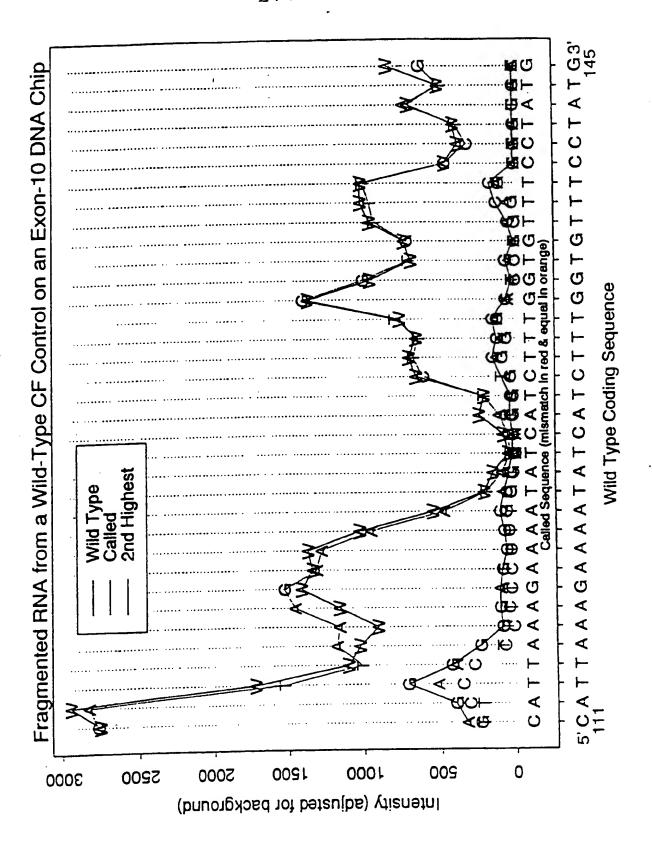


Fig. 23 Page 1 of 2

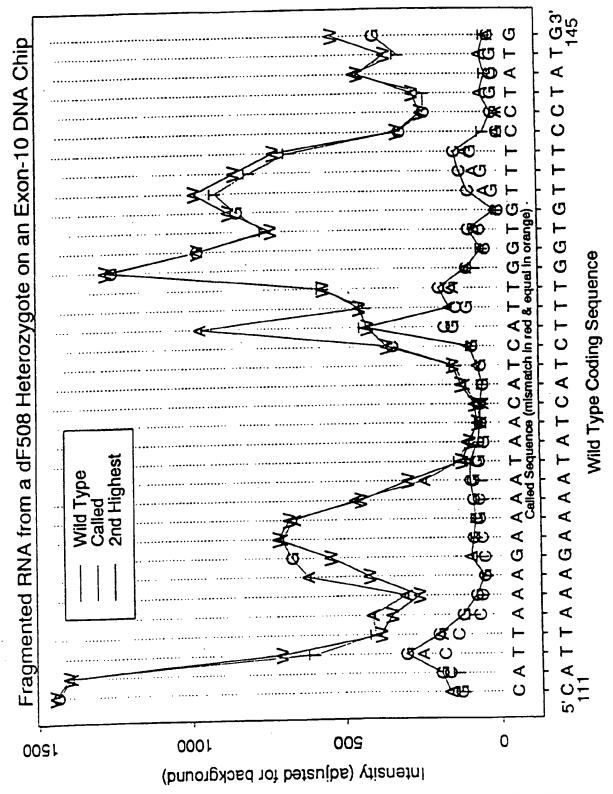


Fig. 23
Page 2 of 2

29/57.

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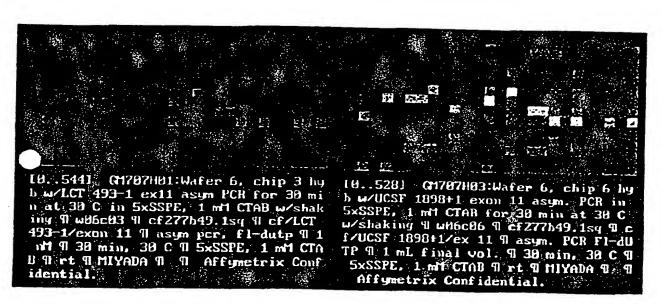


Fig. 24

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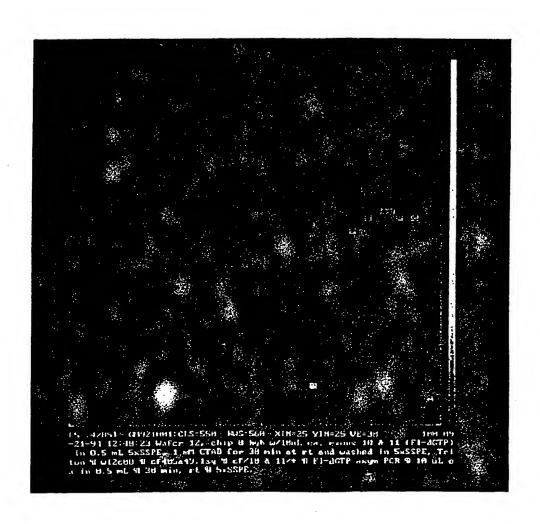


Fig. 25 Page 1 of 2

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В

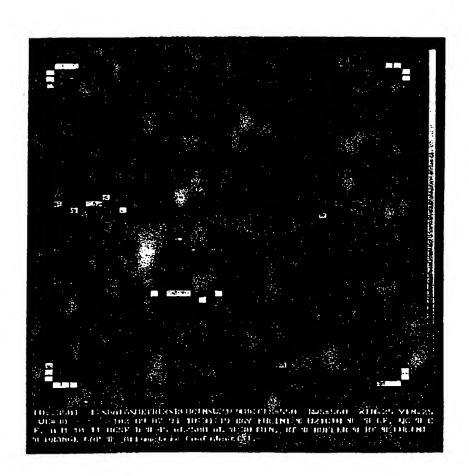


Fig. 25 Page 2 of 2

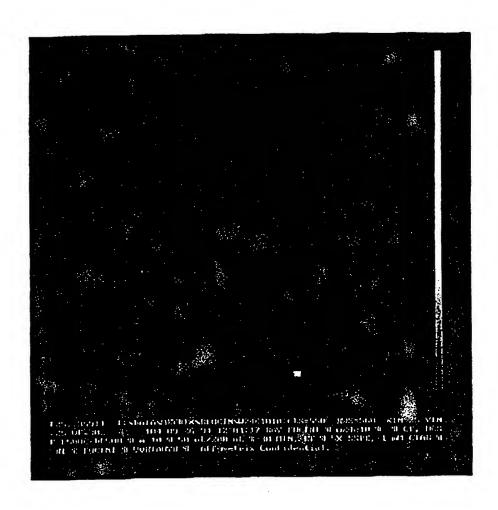


Fig. 26

PCT/US94/12305

Fig. 27

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P53 EXON 6 CODON 192 REGION: 12MER PROBES

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Fig. 28

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P53 EXON 6 CODON 192 REGION: 10MER PROBES

35/57.

Figs. 29 and 31

Detection of 12-mer One-Base Sustitution P53 Targets

Fig. 29

WT ("G" Substitution) Target 12-mer



"A Substitution 12-mer Target

"A" Substitution 12-mer 4:1 Mixture of WT and

Targets

Fig. 31



"C"Substitution Target 12-mer "T" Substitution Target 12-mer





P53 EXON 6 CODON 192 REGION

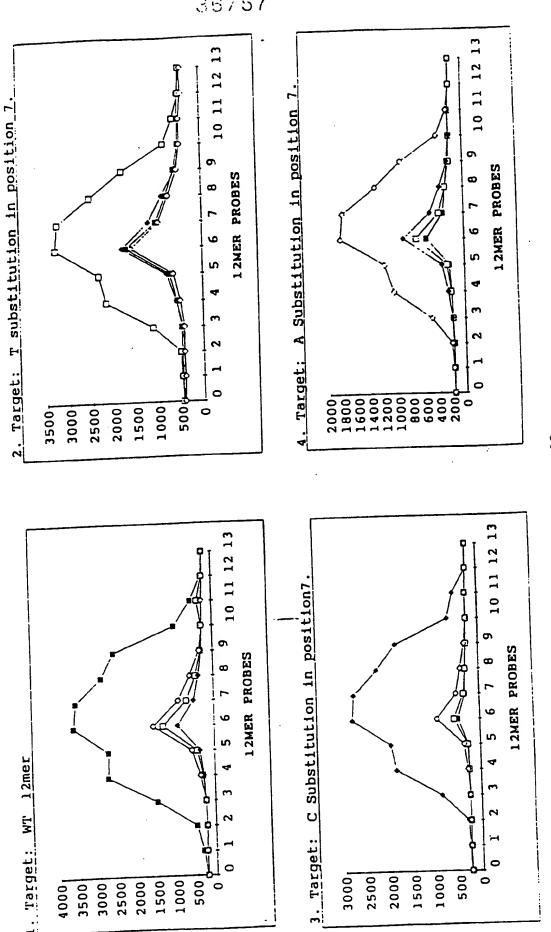


Fig. 30

1'53 EXON 6 CODON 192 REGION

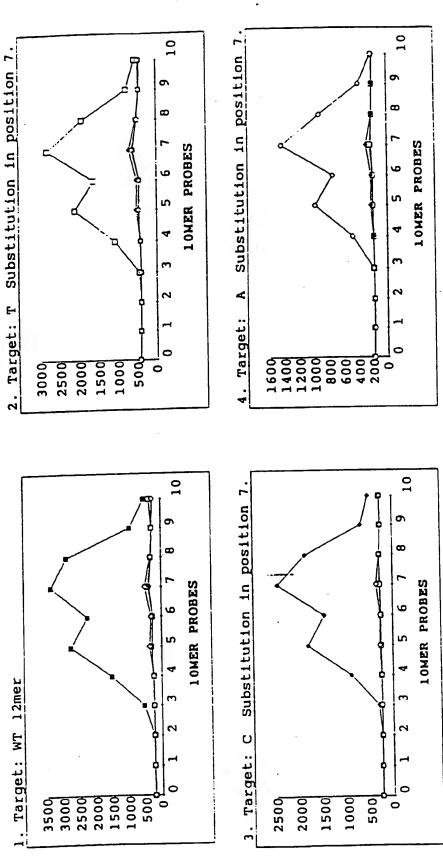


Fig. 32

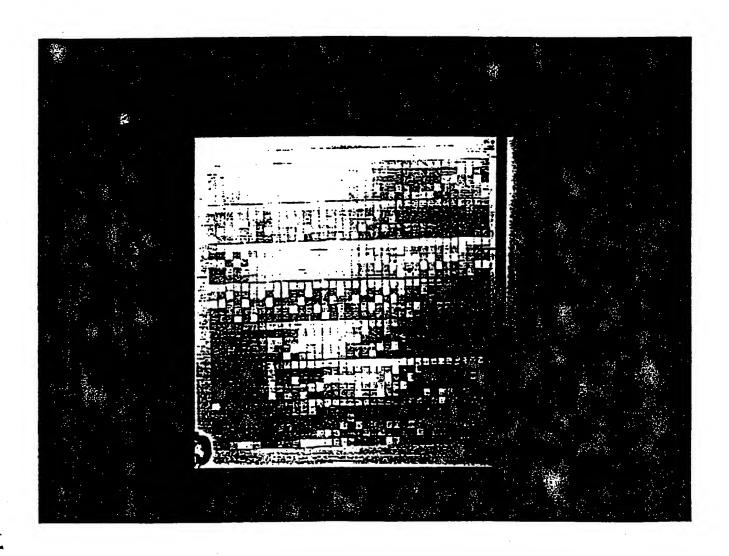


Fig. 33

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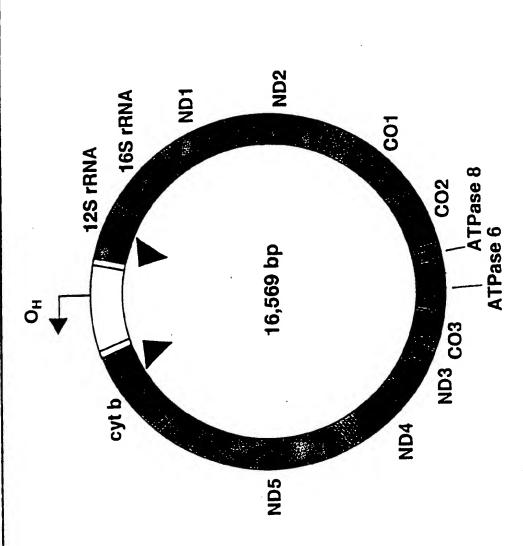
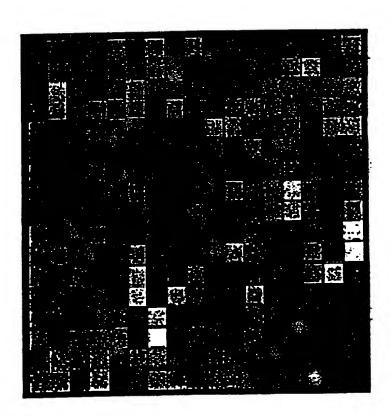
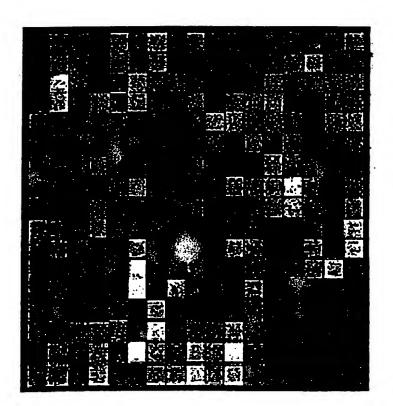


Fig. 35

nt4



mt5



HYBRIDIZATION

Fig. 37

PREDICTED DIFFERENCE IMAGE

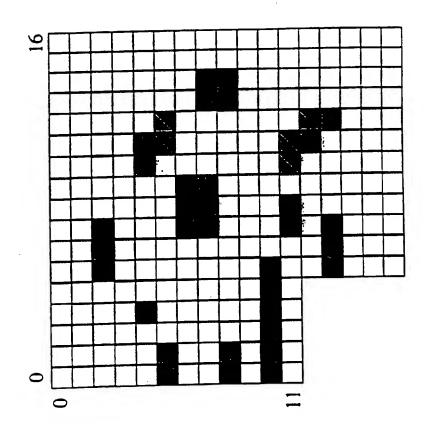


Fig. 38

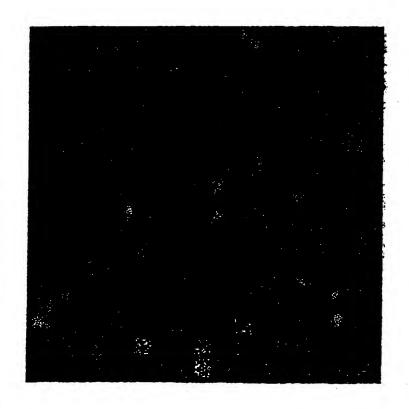


Fig. 39

NORMALIZED INTENSITIES

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-- mt2 mt5 mt3 mt1 12 Probe position in row 10 of array 9 · 10 <u>^</u> 4 mismatch position sample (mt1 -> 6) from 3' of probe probe position probe length base change 0.00 1.60 0.40 0.50 1.40 1.20 1.00 0.80 0.60 Normalized intensity

Fig. 40 Sheet 1 of 2

NORMALIZED INTENSITIES

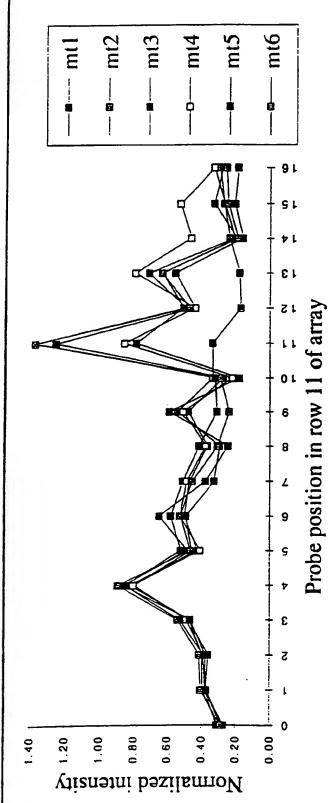


Fig. 40 Sheet 2 of 2

probe position	9	7	×	6	10		12	13
))	,	>	-	7 -	<u>-</u>
probe length	13	12	12	13	14	13	12	12
mt1 -> 6)	2	2, 5	2, 5, 6	3, 6	3, 4, 5, 2, 4, 5	2, 4, 5	2	2
h position	13	9, 10	3, 4	11, 5	4, 11,	11, 3,	9	3
from 3' of probe			11		double	double		
base change	c -> t	c -> t	1 <- 0	1-> c	2 <- 1	g -> a	g -> a	g -> a
			1 -> c		double	t -> c	_	
						double		

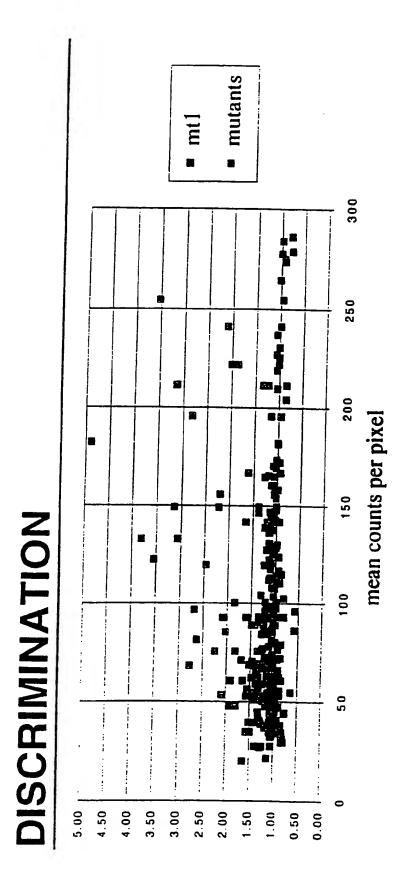
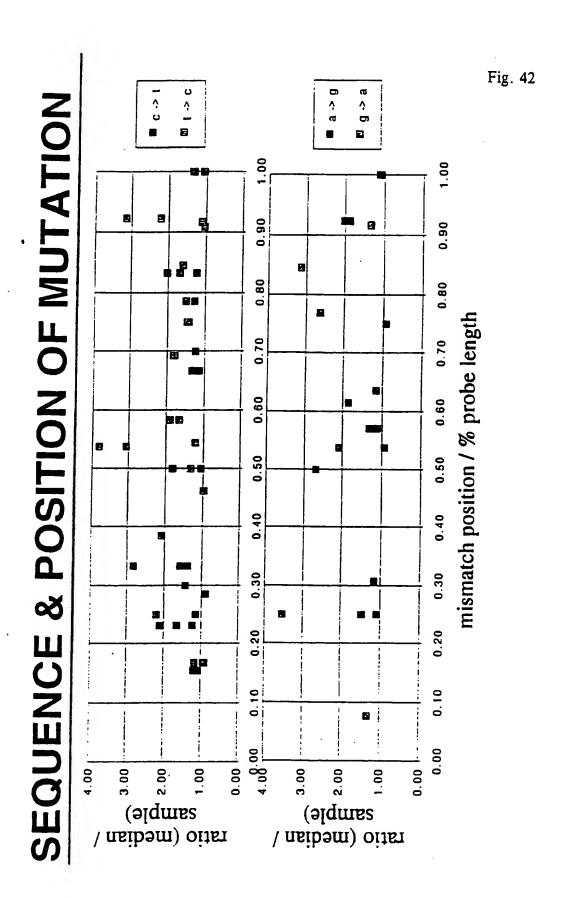


Fig. 41

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SEQUENCE

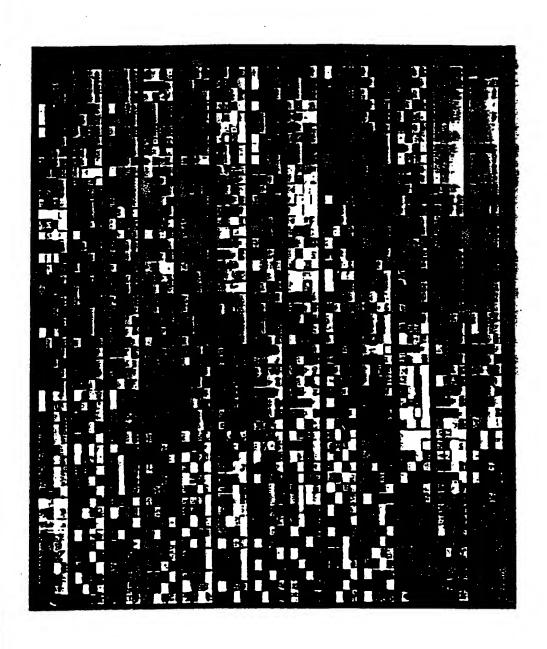
49/57

Fig. 43

ن $C_{\mathcal{K}}$ C Ω \mathcal{O} D **D** 1 gtgtgt C Q b Ū ര C g ದ \mathcal{O} Q \mathcal{O} Ū Ū α \mathcal{O} CCC ttta C بد Q ω g L α لا ರ ಹ L U g \mathcal{O} Ω ىد Łg ta D \mathcal{O} g Q \circ O \Box \Box D ىد لد g ಹ ಹ g Ca ಡ $\boldsymbol{\omega}$ g Q α IJ Ø H α L ಥ ω Ď Q Ω D 1) g O α g Ø g $\boldsymbol{\omega}$ ggT tc ب U g ι g u g \mathcal{O} $\boldsymbol{\omega}$ ರ \mathcal{O} ىد Ü \mathcal{O} ب Q ند ب ದ D L T Ü \mathcal{O} ಥ \mathbf{C} b Ø \mathcal{O} Ω α Ø α α C ಥ Ω ದ α g g \mathcal{O} α р atttcca g g ب Cල ට ct t ctccgtga \mathcal{O} \mathcal{O} \mathcal{O} α L catcTu ರ α Ø α ند Ö ಹ cattacagicaaatcccttctcgtc cccata gacatc ctctcc tcctgc acagtacatagtaca g cga ata Ca ctact ď tg aCC g C ಹ α Ø ب gg Ü ىد ď ď tgaactgtatccgacatctggttc D ب α Q ರ ga ىد ಹ α g α ಥ Ø ಥ b gggtcccttgaccacca caggc ๙ ىد g Ω ¥ α geneaagagigetactetetegetee ಹ ctcacgg cgatag gtcttt α \mathcal{O} Xetececegettetggecacagaatt Ø Q cata cacacgttcccctta agccActttccacagacatcata Ĺа ď cg gcagtatct gg ಹ tategeacetaegtteaatat ttaacca tacccaccett ticgtctggggggtatgca taattaattaatgettgta cta C tagca D gcaccctatgt ata CC S t U D gtctatca La ಹ D 5 ಡ cactea σ cgtac Xaaca ctaaa J ct:aa

50/57-

Fig. 44



HYBRIDIZATION

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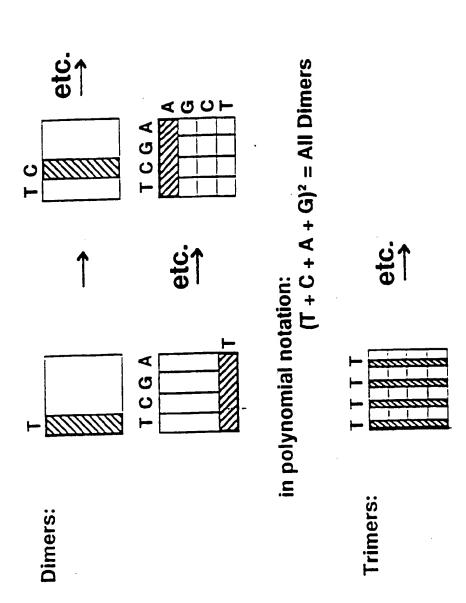
		A C C T
344	T->C	
263	A->G	
152	T->C	
16519	T->C	
Position:	Change:	Result:

Fig. 45

Fig. 46

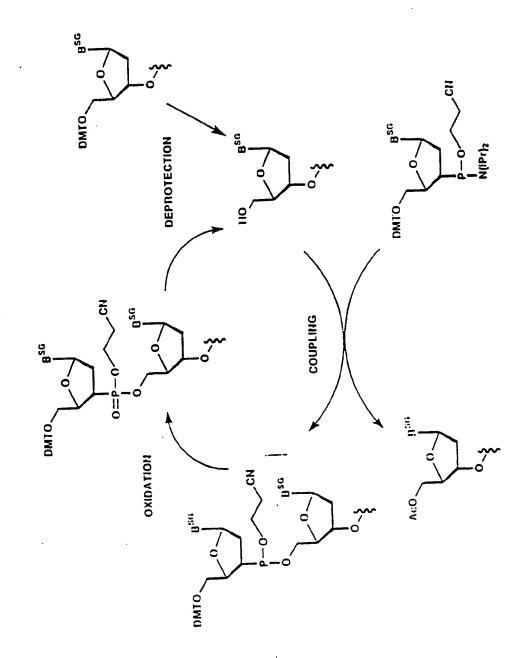
Light Directed Oligonucleotide Synthesis

Fig. 47



Nucleoside Combinatorials

Fig. 48



Solid Phase DNA Synthesis

55 57

Fig. 49

Nucleoside Buildingblocks

Fig. 50

MeNPOC-CI

Fig. 51 fluorescence Intensity flow cell (temperature controlled) Laserbeam (488nm) Detection microscope objective aperture PMT derivatized slide dichroic

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